

# ABSTRACT OF THE DISCLOSURE

A heterojunction bipolar transistor (HBT) with improved characteristics is provided. A III-V compound semiconductor having Bi added thereto is used for a base layer of a GaAs-based or InP-based HBT. For example, a GaAs-based HBT is formed by successively stacking a subcollector layer made of  $n^+$ -GaAs, a collector layer made of  $n^-$ -GaAs, a base layer made of  $p^+$ -GaAsBi, an emitter layer made of  $n$ -InGaP, a first cap layer made of  $n$ -GaAs, and a second cap layer made of  $n^+$ -InGaAs on a substrate 1 made of single crystal GaAs.